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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,539	10/27/2003	Joachim Eibl	M1211/20017	3650

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EXAMINER

WASHBURN, DOUGLAS N

ART UNIT PAPER NUMBER

2863

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/694,539	<b>Applicant(s)</b> EIBL ET AL.	
	<b>Examiner</b> Douglas N. Washburn	<b>Art Unit</b> 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 22 is/are rejected.
- 7) ☒ Claim(s) 3-21, 23 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>27 October 2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Information Disclosure Statement*

1 The information disclosure statement filed 27 October 2003 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language, in particular document DE 1019707. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

### *Claim Objections*

2 Claim 10 is objected to because of the following informalities:

Claim 10 recites "The method according to claim 9, wherein in each group, the samples of **so many intervals** are combined that each group contains approximately the same number of samples." is unclear as to what the applicant regards as the inventive element.

Examiner suggests ""The method according to claim 9, wherein in each group, the samples of [so many] intervals are combined [that] wherein each group contains approximately the same number of samples". Correction is required.

***Claim Rejections - 35 USC § 102***

3 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Ashida (US 4,801,899)(Hereafter referred to as Ashida).

Ashida teaches:

Receiving a high frequency signal output by a high frequency unit and generating samples of a complex value, real base-band signal in regard to claim 1

(e.g.; column 4, lines 28-41);

Generating a modulation symbol sequence by demodulation of a scanned base-band signal in regard to claim 1

(e.g.; column 4, lines 32-37);

Simulating an ideal base-band signal from a modulation symbol sequence as a reference signal in regard to claim 1

(e.g.; column 4, lines 45-47);

Generating a corrected, real base-band signal in regard to claim 1

(e.g.; column 4, lines 42-45);

Evaluating deviations of samples of a corrected, real base-band signal from samples of an ideal base-band signal in regard to claim 1

(e.g.; column 4, lines 52-62);

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An ideal base-band signal is simulated by means of a filter from a modulation symbol sequence determined by demodulation of a real base-band signal in regard to claim 2

(e.g.; column 4, lines 45-47);

A receiving unit for receiving the high frequency signal output by a high frequency unit and for generating samples of a complex value, real base-band signal in regard to claim 22

(e.g.; column 5, lines 57-65; figure 8);

A demodulation device for generating a modulation symbol sequence of a scanned real base-band signal in regard to claim 22

(e.g.; column 5, lines 54-56; figure 8, element 30);

A digital filter for simulating an ideal base-band signal from a modulation symbol sequence in regard to claim 22

(e.g.; column 5, lines 54-56; figure 8, elements 33 and 34);

A correction device for correcting samples of a real base-band signal dependent upon samples of an ideal base-band signal and for outputting a corrected, real base-band signal in regard to claim 22

(e.g.; column 5, lines 54-56; figure 8, elements 33 and 34);

And an evaluation device for evaluating deviations of samples of a corrected, real base-band signal from samples of an ideal base-band signal in regard to claim 22

(e.g.; column 5, lines 57-65; figure 8, elements 31 and 32).

***Allowable Subject Matter***

4 Claims 3-9, 11-21, 23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Claim 3 recites, in part, "a set of parameters is determined in order to correct the real base-band signal, for which set of parameters the deviation of the samples of the corrected, real base-band signal from the samples of the ideal base-band signal is minimal". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 4 recites, in part, "an average quadratic error is minimized in order to determine the minimal deviation of the samples of the corrected, real base-band signal from the samples of the ideal base-band signal". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 5 recites, in part, "only specific, selected samples of the real base-band signal and of the ideal base-band signal are used in order to determine the set of parameters". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 6 recites, in part, "samples of the real base-band signal and of the ideal base-band signal, which lie on symbol decision points in time, are used as specific, selected samples". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 7 recites, in part, "the ideal base-band signal is weighted by means of an evaluation function in order to determine the set of parameters". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 8 recites, in part, "a plurality of groups is formed, a plurality of samples being combined in each group". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 9 recites, in part, "the samples of a plurality of intervals are combined in order to form the groups, the intervals dividing an amplitude range or level range to be evaluated as portions of the same width and each sample being assigned to a specific interval". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 11 recites, in part, "for each interval, the ideal levels or ideal amplitudes determined from the ideal base-band signal are added to form a first interval sum and, for each group, the first interval sums of those intervals, which are combined to form one group, are added up". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 12 recites, in part, "for each interval, the levels of the samples of the corrected, real base-band signal of the samples combined within the interval are added to form a second interval sum and/or, for each interval, the phase errors of the samples of the corrected, real base-band signal of the samples combined within the interval are added in a third interval sum, said phase errors being determined by comparison with the samples of the ideal base-band signal and, for each group, the second and/or third interval sums of those intervals, which are combined to form a group, are added up respectively". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 13 recites, in part, "determination of the interval limits is effected independently of the real base-band signal". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 14 recites, in part, "wherein a representation value pair is determined for each group". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 15 recites, in part, "a course of a characteristic curve is approximated with the representation value pairs as support points". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.



Claim 16 recites, in part, "the course of the characteristic curve is approximated to the support points by means of a polygonal curve course". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 17 recites, in part, "the course of the characteristic curve is approximated to the support points by means of a polynomial". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 18 recites, in part, "the course of the characteristic curve is approximated to the support points by means of a spline interpolation". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 19 recites, in part, "each representation value pair, comprising a first average value of the ideal levels or of the ideal amplitude and a second average value for the level of the samples of the corrected, real base-band signal or a second average value for the deviation of the phase of the samples of the corrected real base-band signal, is formed from the samples of the ideal base-band signal of the respective group". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 20 recites, in part, "a measurement is implemented respectively for various level settings of the high frequency unit and the representation value pairs of the various measurements are used in order to form a characteristic curve". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 21 recites, in part, "a plurality of characteristic curves is determined from respectively one measurement and an average characteristic curve is formed from the plurality of characteristic curves by averaging". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 23 recites, in part, "the correction device comprises a minimization element for determining a set of parameters, for which the deviations of samples, with the set of parameters, of the corrected, real base-band signal from the samples of the ideal base-band signal are minimal, and a correction element for outputting a correct, real base-band signal with the determined set of parameters". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

Claim 24 recites, in part, "an evaluation device for weighting the ideal base-band signal by means of an evaluation function for the correction of the samples is provided". This feature in combination with the remaining claimed structure and all of the limitations of the base claim and any intervening claims avoids the prior art of record.

It is these limitations, which are not found, taught or suggested in the prior art of record, and are recited in the claimed combination and all of the limitations of the base claim and any intervening claims that makes these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

5 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas N. Washburn whose telephone number is (571) 272-2284. The examiner can normally be reached on Monday through Thursday 6:30 AM - 4:30 PM.

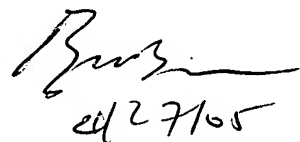
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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DNW

**BRYAN BUI  
PRIMARY EXAMINER**



ed 2/7/05